Weekly Bytes on Innovation and New Trends

PM Modi Urges Youth to Embrace AI, Machine Learning

- Prime Minister Narendra Modi on Thursday underscored the importance of AI and machine learning, calling on India's youth to acquire these skills rapidly. Speaking at a Veer Bal Diwas event, the PM said, "This era has moved beyond machines to machine learning. AI is taking centre stage, and we can see its application replacing conventional software. It is essential to make our youth future ready to tackle these challenges."
- PM Modi discussed the government's efforts to boost AI education and skill development and highlighted the importance of innovation in schools and universities. He also urged India's youth to remain adaptable in the country's fast-changing tech environment.
- Veer Bal Diwas is observed annually on December 26 to mark the courage of the Sahibzadas, whose resolve in the face of oppression serves as an example of resilience. The PM paid tribute to the Sahibzadas, Guru Gobind Singh's sons, who chose martyrdom over submission to the Mughal Empire.
- PM Modi urged young people to draw inspiration from the Sahibzadas' resilience as they pursue proficiency in emerging technologies and uphold essential values.

Source: https://analyticsindiamag.com/ai-news-updates/pm-modi-urges-youth-to-embrace-ai- machine-learning/

Google Deepmind's New Benchmark Evaluates Factuality of LLMs

- A new benchmark tool, FACTS Grounding, was recently announced as a collaboration between Google DeepMind and Google Research. It evaluates the factual accuracy of LLMs.
- The FACTS Grounding benchmark and an associated leaderboard aim to measure how well AI models generate responses grounded in the provided source material. This initiative addresses challenges such as misinformation and hallucination in AI-generated content.
- "To track progress, we're also launching the FACTS leaderboard on Kaggle," the developers announced in their blog.
- This aims to increase trust in LLMs and limit their applications in the real world since LLMs are prone to hallucinate false information, particularly when given complex inputs.

Source: https://analyticsindiamag.com/ai-news-updates/google-deepminds-new-benchmark- evaluates-factuality-of-llms/

Microsoft helps upskill with technology

Teachers are elected each year based on their innovative use of classroom technology

AMANDA MALIBA

MICROSOFT'S GLOBAL Forum was founded with the aim of celebrating great teachers who were doing great things in classrooms, using technology as a tool to upskill students, according to Anthony Salcito, vice-president of education for Microsoft Corporation's worldwide public sector.

Yearly, a group of teachers from various walks of life convene at the forum to network, share ideas and for professional development purposes.

This year was no different. Five Microsoft Innovative Educator (MIE) experts from South Africa were represented at this year's Microsoft in Education Global Forum in Dubai.

These teachers are elected each year based on their innovative use of classroom technology, and how they advocate towards e-learning and cultivating tangible results.

EXPECT: Principal Phuti Ragophala of Pula Madibogo Primary with Anthony Salcito.

"The teachers upload their own learning curriculum on Microsoft's website, accompanied with a motivation as to why they should be chosen," says Megan Redemeyer, the programmes manager at SchoolNet SA.

"These are teachers who go over and above their call of duty to educate learners, using technology, sharing their knowledge with colleagues and using all available platforms to educate," she adds.

Phuti Ragophala, principal at Pula Madibogo Primary school Limpopo, says she always learns a lot and is inspired to do much more for her community and school from the forum, as this is not her first time attending.

"I have learnt how technology should be used as a supporting tool and an educational booster to assist the teacher and learners to meet the objectives of the lesson. It is also used to simplify the content. It cannot replace the teacher," says Ragophala.

She acknowledges the importance of technology in education but stands on the fact that it should support the curriculum, not replace.

"Teaching has changed. We no longer produce products that are industrial based world economy but products that are knowledge based which involves 'teaching with technology'. In today's economical times, we need to develop new skills including collaboration, creativity, synthesis, critical thinking, analysis and character building that will benefit our learners as future and competent leaders. All these must start in the classroom," she adds.

Other teachers who attended the forum were Karen Stadler, an educator at Elkanah House, who heads up the project Saving the Rhinos; Kathryn Riva, an educator from Micklefield School who has a range of educational activities incorporating technology; and Lyneth Crighton (educator) and Benedikte Nott (principal) both from Brescia House, a showcase school for Microsoft.

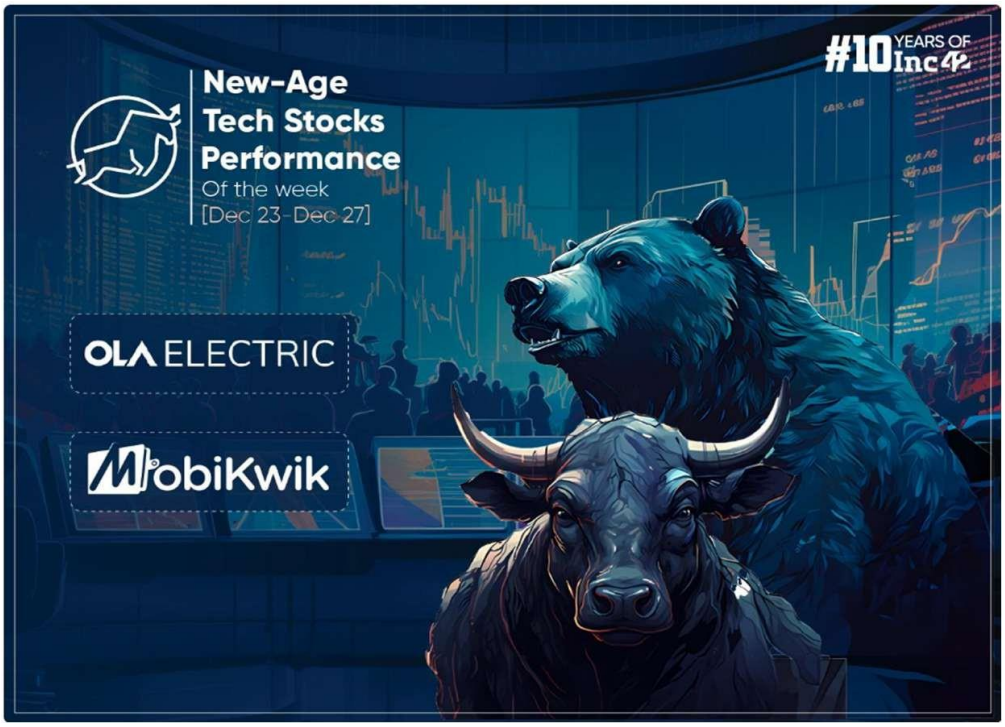
The school runs the Game of Global Domination project where they encourage game coding, while teaching about trading and the various currencies of various countries, in their EMS lessons.

Microsoft showcase schools help demonstrate the educational change that is happening technologically, and are schools that have applied this vision to transforming whole schools using Microsoft technology.

Visit www.microsoft.com for more information.

Source: https://www.schoolnet.org.za/blog/microsoft-helps-upskill-with-technology

New-Age Tech Stocks End Final Week Of 2024 On A Mixed Note, MobiKwik Biggest Gainer



- After slipping nearly 5% last week, the Indian equities market saw a slight recovery in the final week of 2024. However, it was a mixed week for new-age tech stocks on the bourses.
- Eighteen out of the 31 new-age tech stocks under Inc42's coverage gained in a range of 0.06% to just a little under 19% this week.
- Recently listed fintech major MobiKwik gained the most in its first full week of trade. Its shares ended the week over 18% higher at INR 628.55. The company's shares receded after touching an all-time high of INR 698.30 on Thursday (December 26).

Teenage Hacker Builds $200 Million AI Empire Transforming Industrial Maintenance

- In 2010, a young Igor Marinelli sat before his Windows 98 computer, already showing signs of what would later shape his future. Unlike his peers who found joy in Atari or PlayStation games, Marinelli discovered his passion in building things. "I got extremely addicted to building stuff, for better or worse. I can never engage in video games of any kind.

- I remember going to a friend's house trying to play Atari or PlayStation 1 and in just 15 minutes, and getting… bored, annoyed. Good for me because then I was just back to the computer, kind of more introspective, and just learning stuff," Marinelli recalls.

Source : https://aimresearch.co/market-industry/teenage-hacker-builds-200-million-ai-empire- transforming-industrial-maintenance

ISRO's SpaDeX docking experiment postponed to January 9

- "The SpaDeX Docking scheduled on 7th is now postponed to 9th. The docking process requires further validation through ground simulations based on an abort scenario identified today. Stay tuned for updates," the ISRO said in a post on Monday (January 6, 2025).

- The ISRO was scheduled to carry out the docking experiment of the two small satellites, SDX01 (Chaser) and SDX02 (Target) in the early morning of January 7.

Source: https://www.thehindu.com/sci-tech/science/spadex-docking-experiment-postponed-to-january-9/article69067681.ece

Three men ignite young minds with small piece of technology

Aditi.Sharma@timesgroup.com

The benches have been pushed to the corner of the sunlit room. There will be no need for them for the next couple of hours at least.

In groups of four, the students sit on the floor, huddled over what looks like a circuit. At one end, Shoaib Hafiz Dar stands close to the blackboard holding the stub of a chalk and switching between Hindi and English as he instructs the 'class'.

Just as Shoaib is done explaining a concept, his colleague Jaskaran Singh is ready to take over the next section. Meanwhile, another partner Sanjay Shenoy sits down with some students to help them with the nitty-gritties of the job at hand.

Together, the students and their instructors are building a sensor to check the level of water in a storage tank, thereby preventing wastage.

At their last session with the students of Classes V and VI, the instructors are confident that the participants will easily grasp the concepts being put forward. When they do stumble, Batman comes to their rescue!

Jaskaran asks the class, "What does Batman do to solve a problem?" A hand jumps up and the eager student blurts, "He beats up the villain." Not entirely satisfied with the answer, Jaskaran patiently probes, he wants to know what Batman does before beating up the villain. A murmur rises through the room before another student shouts out the answer, "Tools! He gathers his tools and weapons." The teacher approves and a smug smile lights up the student's face.

Like Batman, Jaskaran wants the students to be prepared, get the tools together and understand the concept required to create a circuit for the moisture sensor that will tell the computer to set off the alarm when there is enough water in the tank so the supply can be shut off.

Water wastage is a crucial issue for these students. Most of the young girls and boys at Sardar Kanhoji English Medium School in Shukrawar Peth come from lower middle class families residing in nearby areas – Lohiyanagar, Shukrawar Peth and Ganesh Peth. Their parents work odd jobs. Most fathers are autorickshaw drivers or work at local beedi factories while their mothers stay at home or find employment as house help.

Only a few of the students have ever handled a smartphone. The few times students access a computer is at the school. Clearly, it's quite a big deal for these children to talk of algorithms and sensors without batting an eyelid.

This is the youngest batch of students for whom Pi Jam, founded by Shoaib, Jaskaran and Sanjay, has held workshops. Usually, they interact with students of Classes VII to IX since the basic concept is to develop analytical thinking. According to the team, the fact that the students do not have preconceived ideas about technology actually helps them imbibe and retain concepts better.

Shoaib shares, "Through about five sessions, we demystify the computer. We explain to them that it isn't just a box, or a CPU, it's everywhere – your smartphone, your refrigerator. It's basically a simple tool to solve problem. That's important because in a kid's mind it becomes a device that they can control. At the start of the sessions, we ask them to turn a light on and off using a sensor in order to show them how they can control the tool."

For Team Pi Jam, the journey began four months ago in May. The first workshop was held at Kasturba Gandhi English Medium School in Koregaon Park, where Shoaib had taught as a Teach for India fellow. The success of the first workshop led to more sessions at community centers in Mundhwa, Wadgaon Sheri and Ideal English Medium School in Hadapsar.

Together, the students and their instructors are building a sensor to check the level of water in a storage tank, thereby preventing wastage

At this point, the team is looking to take the workshops to about 10 schools across the city. The plan for the future also includes holding interactive sessions for private schools where the availability of infrastructure would change the dynamics drastically.

The founders of Pi Jam are acutely aware of the disconnect between what is taught in computer labs at schools and what the professional world requires. Not that access to a computer is universal but, Shoaib says, even at most government schools that have computer labs, children are only taught how to send an email or create Powerpoint presentations. "At private schools, the focus is on really expensive things like robots and artificial intelligence but not practical engagement. On the other hand, we just capitalize on the best open source resources and develop a curriculum around it. Our expertise is with pedagogy and education. Therefore, we took the technology and structured it in such a way that it helps the child's problem-solving and creative thinking abilities. These are skills they are going to need throughout their lives," says Shoiab.

The 26-year-old is passionate about practical education that would help a student grasp a higher goal. "In a couple of years, these kids will be out of school, but without any real computer-related knowledge. The roots have to be somewhere deeper in our education system. However, during the formative years, we don't push a student to think in constructive ways. So, basically a person ends up with an engineering degree but s/he doesn't think critically and isn't able to contribute to the creative economy. Even now, it is our service sector that provides most jobs," Shoaib explains.

Thus, Pi Jam aims to help students gain a level of comfort with technology, navigate a computer and develop programming ability. With this in mind, the instructors focus on teaching students about algorithms instead of restricting them to a particular programming language.

"We want to open up avenues for these students so that they can consider computer-related careers that aren't restricted to data entry or secretarial jobs. In fact, we're so glad that girl students take to our sessions with as much enthusiasm as the boys," smiles Shoaib.

Shoaib, Jaskaran and Sanjay are in the process of registering Pi Jam as an NGO and hope to attract funding for their many plans.

Aditya Walkul

CRAZY ABOUT THE NUTS AND BOLTS

UNDERSTANDING THE BASICS

Pi Jam derives its name from the Raspberry Pi processor, which was developed in the United Kingdom and is used to teach basic computer science in schools. Shoaib points out that the processor is quite bare bones and, priced between Rs2,500 and Rs3,000, is pretty cheap too. With eight processors in their kitty, the group can cater to about 32 students during a single session

TAKING PRIDE IN THE PROJECTS

Pi Jam helps students understand how they can use and apply the circuits to solve day-to-day problems and students have developed some interesting ideas

- 17-year-old Shankar Sangam has created a cane, equipped with a distance sensor, for the visually-impaired. A hooter attached to the cane begins to beep when there is an obstacle at a particular distance. The cane also has a moisture sensor to tell the user if they're about to step into water
- At the Mundhwa community centre, children have come together to create a motion sensor that turns on the tubelights in a room on sensing movement. They have also set up a temperature and moisture sensor at the centre. Since an area near the centre tends to get quite dark at night the children have created a motion sensor that switches on light automatically to ensure security
- At Kasturba Gandhi English Medium School in Koregaon Park, the students are currently working on creating an automated box garden that can grow plants on its own. The project helps the children learn about moisture, temperature, sunlight, and so on

PLANS FOR THE FUTURE

Over the next couple of months, Pi Jam aims to conduct workshops at private schools as well. Shoaib explains, "When we do these sessions at private schools, we hope to push it to a higher academic level in terms of outcome and take up more complex projects. However, the basic idea is to introduce students to bare bones technology."

VOICES

"Since our students are very new to computers we wanted them to get first-hand knowledge of how technology works. I saw Pi Jam's workshop as a platform for kids to use their knowledge and learn better with hands-on experience

— Jhilmil Garg | ACADEMIC CO-ORDINATOR, SARDAR KANHOJI ENGLISH MEDIUM SCHOOL

"We want to open up avenues for these students so that they can consider computer-related careers that aren't restricted to data entry or secretarial jobs. In fact, we're so glad that girl students take to our sessions with as much enthusiasm as the boys,

— Shoaib Hafiz Dar | ONE OF THE FOUNDERS OF PI JAM